



Work Elements and Definitions by Category

EC = Environmental Compliance

BPA Internal Operations Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
5	Land Purchase	This is a BPA Internal-use only Work Element. BPA uses this work element to direct wire money to escrow associated with real estate transactions. This work element only covers the purchase price or option of the land or easement (it may include escrow, title, and/or closing costs). Any work performed by BPA's Transmission Business Line (TBL) in support of the real estate transactions shall be covered by WE# 6: TBL Work (All a BPA Internal-use only Work Element).	Ü	Ü	Ü	Ü
6	TBL Work	This is a BPA Internal-use only Work Element. BPA uses this work element for any work the Transmission Business Line provides in support of a fish and wildlife project. May include appraisal review, appraisals, help in development of an MOA, real estate negotiations, survey/photogrammetry, and GIS work. Additionally, relocation costs associated with a land purchase are captured here.				Ü
182	PIT Tags	This is a BPA Internal-use only Work Element. BPA uses this work element to capture the cost of PIT tags purchased by BPA on behalf of the contractor(s). While this work element is not included in the Contractor's statement of work, it is a project expense. Use WE# 158: Mark/Tag Animals, for contractor expenses associated with ordering and/or implanting the tags in Fish or Wildlife.			Ü	



Environmental Compliance Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
165	Produce Environmental Compliance Documentation	Covers any work by the Contractor to assemble, gather, acquire, or prepare documents in support of obtaining environmental compliance from BPA (such as filling out a NEPA Checklist, providing maps, drafting a Biological Assessment, obtaining permits, conducting public involvement activities, completing an archaeological survey, etc.). In all cases, environmental compliance work must be separated from all other work. It is not permitted to combine environmental compliance activities with any other work element.		ü		

Planning and Coordination Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
99	Outreach and Education	Covers work to educate or communicate with the public. Includes conducting classes, seminars, workshops, training, symposia, and conferences. Excludes work to coordinate landowners or other direct participants in on-the-ground conservation (see WE# 118: Coordination), or work to identify and select new projects (WE# 114: Identify and Select Projects).		ü		ü
114	Identify and Select Projects	Covers work by the contractor to identify, prioritize, assess, and ultimately select projects. Often associated with Model Watersheds, or habitat restoration programs that coordinate multiple projects within a larger umbrella project. Coordination work that helps identify and select projects or sites should be covered under this work element.				
115	Produce Inventory or Assessment	Covers inventories and assessments specifically designed to support future implementation actions. Can include passage inventories, habitat condition inventories, or watershed assessments. Does not cover ongoing passage and habitat monitoring.	ü			ü



Planning and Coordination Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
119	Manage and Administer Projects	Covers work by the contractor to manage on the ground efforts, or to manage subcontractors associated with the project e.g., construction management. Also covers administrative work in support of on the ground efforts and in support of BPA's programmatic requirements such as metric reporting, financial reporting (e.g., accruals), and development of an SOW package (includes draft SOW, budget, spending plan, and property inventory).				
122	Provide Technical Review	The review of technical details, including but not limited to engineering plans, restoration plans, project selection, RM&E methods, and deliverable approval.			Ü	
174	Produce Plan	Covers a wide range of planning activities including but not limited to operation plans, management plans, maintenance plans, implementation plans, restoration plans, research, monitoring, and evaluation (RM and E) plans, Hatchery Genetic Management Plans HGMPs, feasibility studies, and surveys. Covers both strategic plans that will influence multiple projects and site-specific plans. Use WE# 168: Council 3-step Process: Step 1, or WE# 169: Council 3-step Process: Step 2, to cover labor and materials for the submission of documents required by the NPCC's 3-step process.			Ü	
175	Produce Design and/or Specifications	Covers all work associated with the preparation of engineering or technical drawings, specifications and/or budgets required for the construction/installation of any structure or facility. May include ancillary work such as land surveying, photogrammetric surveys, field surveys, etc. For construction work not requiring a formal design (e.g., installation of a barbed-wire fence), this work may be included as a milestone under the corresponding work element.			Ü	Ü
189	Regional Coordination	Covers coordination work at the program, subbasin, and regional level. Coordination which directly supports other project work should be covered in the details of the associated work element. Coordination work that helps identify or select projects and/or sites should be covered under WE 114 Identify and Select Projects.				



Reporting Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
132	Produce Annual Report	This work element covers two types of reports, which may be combined and submitted under a single cover. The first type is a progress report that includes details of accomplishments for each work element in the contract: Were the deliverables produced, and, if not, why not? For many contracts, this report is an essential product that - when published and posted on the BPA website - succinctly documents contract performance for the public record. The second type of report is technical and applies to projects that are gathering data, for example on a feasibility study. This report provides a summary and analysis of data gathered - such as smolt to adult return rates, etc. - typically in a technical report format. These reports usually include data summaries. Intensive research projects may only produce cursory technical reports in some years, if the COTR and contractor have negotiated for a full scientific findings report (see other work element) after a few (e.g. 2-4) years of data.				
141	Produce Status Report	This work element covers any report required or produced for a contract, except those specifically covered under other work elements (e.g., WE# 132: Produce Annual Report, or WE# 183: Produce/Submit Scientific Findings Report, or WE# 185: Produce Pisces Status Report). If this work element is used for multiple reports in the same contract, then each report should be listed as a separate milestone.				
183	Produce/Submit Scientific Findings Report	This applies to two general types of scientific publications: 1) Manuscripts being submitted for publication in a scientific journal and 2) Final technical reports. The latter category includes research and evaluation reports, and higher-level programmatic reviews. Monitoring reports (e.g., updated annual escapement counts) are usually considered part of annual progress reports. "Analysis" typically involves hypothesis testing and/or tests of statistical significance in differences across groups/treatments or time that directly support decisions regarding resource or program/project management. This contrasts with reports that primarily present raw or summarized data (including means, variances, and trends). Preliminary analyses are reported as progress toward Final Scientific Findings reports and should be covered by WE# 132: Produce Annual Report.		ü	ü	

**Reporting Work Elements**

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
185	Produce Pisces Status Report	<p>This work element covers the reporting of status of milestones and deliverables in each contract. These milestone status reports shall be completed either monthly or quarterly as negotiated between the contractor and COTR.</p> <p>For any other type of status report required or produced for a contract, use WE# 141: Produce Status Report — except those specifically covered under other work elements (e.g., WE# 132: Produce Annual Report, or WE# 183: Produce/Submit Scientific Findings Report).</p>				

Habitat Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
29	Increase Instream Habitat Complexity	Work that adds natural materials instream to create habitat features or to improve channel morphology. Includes J-hooks, barbs, vortex weirs, and large woody debris (LWD). Can include work to stabilize or maintain a streambank, such as riprap. If structures are being added primarily to overcome a fish passage barrier, use WE# 184: Install Fish Passage Structure. If replacing or maintaining an existing structure use WE# 186: Operate and Maintain Habitat/Passage.	ü	ü	ü	ü



Habitat Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
30	Realign, Connect, and/or Create Channel	Active attempts to directly add sinuosity, meanders, side channels, and/or off-channel habitats (e.g., sloughs or oxbows). May include reconnection of historical channels (either via excavation or diversion of existing streamflow), excavation of new channels, and/or significantly improving the functionality of existing channels (e.g., creating a "natural" spawning channel for chum). If work is solely to add structures/features that change hydraulic conditions and that may eventually cause channel realignment, then use WE# 29: Increase Instream Habitat Complexity. If the work includes removal of a barrier for fish passage into upstream reaches of the existing channel, then use WE# 84: Remove/Install Diversion, WE# 85: Remove/Modify Dam, or WE# 184: Install Fish Passage Structure, since the miles of opened habitat must be recorded as a metric.	ü	ü	ü	ü
31	Conduct Controlled Burn	Use of fire to improve habitat.	ü	ü	ü	ü
33	Decommission Road	Any activity that makes a road unusable including adding berms, pits, boulders or logs, and/or ripping or obliterating the road with heavy equipment that may involve re-contouring the slope. If planting vegetation or seeding use WE# 47: Plant Vegetation. If removal of fish barrier (e.g., culvert) is included, use WE# 84: Remove/Install Diversion, WE# 85: Remove/Modify Dam, or WE# 184: Install Fish Passage Structure. If work also involves channel realignment, use WE# 30: Realign, Connect, and/or Create Channel in addition to this work element.	ü	ü	ü	ü
34	Develop Alternative Water Source	Includes, but not limited to, watering troughs, spring and well development, guzzler installation.	ü		ü	ü
35	Develop Pond	Develop a pond and its surrounding habitat for resident fish and/or waterfowl. May involve the installation of a water control structure or excavation. Does not apply to sediment control ponds (WE# 55: Upland Erosion and Sedimentation Control); acclimation ponds (WE# 171: Build Artificial Production Facility); or wetlands (WE# 181: Create, Restore, and/or Enhance Wetland).	ü		ü	ü



Habitat Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
36	Develop Terrestrial Habitat Features	Includes the installation and/or creation of structures for the benefit of wildlife species, including, but not limited to, nest boxes/platforms, avian perches, snags, and artificial roosting sites.	Ü	Ü	Ü	Ü
38	Improve/Relocate Road	Any work designed to eliminate or reduce erosion, sediment, and/or toxic run-off from reaching streams, rivers, or wetlands from roads currently in use.	Ü	Ü	Ü	Ü
40	Install Fence	Work to install various types of fence and/or gates. Can also include cattle guards or water gaps for livestock.	Ü	Ü	Ü	Ü
44	Enhance Nutrients Instream	Addition of fish carcasses, or direct nutrient introduction via fertilizer to improve biological diversity in a stream or river.	Ü		Ü	Ü
47	Plant Vegetation	Install plants for purposes such as erosion control, roughness recruitment, shading, restoring native habitat, forage enhancement, road removal. May be riparian or upland and includes seeding. If maintaining vegetation, use WE# 22: Maintain Vegetation.	Ü	Ü	Ü	Ü
48	Practice No-till and Conservation Tillage Systems	Includes establishing conservation tillage systems that focus on increased crop residue during subsequent crop seeding, and/or the reduction or elimination of traditional tilling practices. Work may also include the purchase of chaff chopper/spreaders and other small equipment (generally co-operatively purchased) designed to aid in no- or reduced- till operations and crop residue enhancement.	Ü	Ü	Ü	Ü
52	Remove Mine Tailings	Work to remove or re-contour remnant landscape effects from old mining operations. Could be terrestrial or aquatic in nature.	Ü	Ü	Ü	Ü
53	Remove vegetation	Removal, either mechanical, biological, or chemical, of one or more plant species or a number of individuals of a plant species. Often are exotic or non-native plants, naturalized plants, or undesirable native plants. Also includes tree stand manipulation in order to create forage openings. If you are re-treating an area or using a different technique in a previously treated area, use WE# 22: Maintain Vegetation. WE# 53: Remove Vegetation, should only be used if you have a new objective or are treating a new area.	Ü	Ü	Ü	Ü



Habitat Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
55	Upland Erosion and Sedimentation Control	May include the installation of water bars, gully plugs and culvert outlets, grassed waterways, grade stabilization structures, sediment catchment ponds/basins, and removal of drainage pipes/and other blockages to specifically prevent a sediment slump or landslide. Does not include improvements to roads (for that work, use WE# 38: Improve/Relocate Road).	ü	ü	ü	ü
180	Enhance Floodplain	Refers to the removal or breaching of a dike to restore floodplain function or the enhancement of a floodplain through the addition of large woody debris. May also involve the installation of a tidegate or water control structure.	ü	ü	ü	ü
181	Create, Restore, and/or Enhance Wetland	Refers to the creation, restoration, or enhancement of a wetland. May include a water control structure, a tidegate, dike removal or breaching, re-contouring, and excavation.	ü	ü	ü	ü
190	Remove and/or Exclude Animals	Removal or relocation of non-native or undesirable fish and wildlife species and/or any actions employed to exclude non-native or undesirable fish and wildlife species from a particular area. Examples of removal include the removal of bullfrog egg masses and adults or removal of Northern pikeminnows. Examples of exclusion activities include the installation of a fish passage barrier to exclude non-native fish from high mountain lakes. Fencing activities designed to exclude livestock should use WE# 40 Install Fence.	ü		ü	ü

Habitat/Passage O&M Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
22	Maintain Vegetation	Activities that include herbicide application, plant competition reduction (scalping, mats), mowing, irrigation, fertilization, prevention or reduction of animal damage (browse repellents, tree tubes).	ü		ü	ü
26	Investigate Trespass	Efforts involved with establishing whether trespass is occurring (human or livestock). For fence maintenance use WE# 186: Operate and maintain habitat/passage.			ü	ü



Habitat/Passage O&M Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
27	Remove Debris	Removal of items such as trash, old buildings, and abandoned equipment from water or land. Does not include removal of a diversion or instream structure. For removal of organic matter when cleaning screens use WE# 186: Operate and Maintain Habitat/Passage.	Ü		Ü	Ü
28	Trap and Haul	Work to capture and transport fish usually by means of trucking or barging for the purpose of assisting upstream and/or downstream migration. If trapping and hauling for predator control use WE# 166: Remove or Relocate Predaceous Animals. If installing a fish trap, use WE# 70: Install Fish Monitoring Equipment.	Ü	Ü	Ü	Ü
186	Operate and Maintain Habitat/Passage	Operation and maintenance of habitat features including, but not limited to, fences, instream structures, passage facilities, sediment control structures, and off-site water developments. Also includes the maintenance of residences, sheds, barns, and other buildings associated with habitat/passage projects. Use WE# 188: Provide Public Access/Information for maintenance of access roads, parking areas, signs, and kiosks. Use WE# 61: Maintain hatchery, for operation and maintenance of facilities and structures associated with hatcheries. Use WE# 22: Maintain Vegetation for vegetation maintenance.	Ü		Ü	Ü
188	Provide Public Access/Information	Installation and/or maintenance of signs, kiosks, information boards, access roads, road closures, and parking areas. You should use this WE for trespass signing rather than WE# 26: Investigate Trespass. Also, WE# 61: Maintain Hatchery, should be used for this kind of work pertaining to hatchery operations and WE# 38: Improve Road, should be used for road work associated with habitat improvement by reducing erosion.	Ü			Ü

Instream Passage Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
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Instream Passage Improvement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
69	Install Fish Screen	Work to install or replace a fish screen associated with a diversion or pump. Typical screen types include rotary drum, flat plate or traveling. The design of complex or large-scale screens is typically a separate work element. See WE# 175: Produce Design and/or Specifications.	Ü	Ü	Ü	Ü
80	Install Siphon	Covers work that installs a siphon, flume or other structure to separate canal flow from stream flow where the two have been intermingled as part of past irrigation development, resulting in fish using the natural stream course for passage and rearing. The design of these structures is typically a separate work element and should use WE# 175: Produce Design and/or Specifications.	Ü		Ü	Ü
84	Remove/Install Diversion	Work that removes, replaces, or avoids creating a fish passage barrier associated with a stream diversion, including push-up dams. May be part of a diversion consolidation effort that reduces the number of diversion sites. Includes installation of alternative ways to divert stream flow without creating passage barriers caused by traditional diversion structures. Examples include, but are not limited to, infiltration galleries, instream diversion pumps, and lay-flat stanchions.	Ü	Ü	Ü	Ü
85	Remove/Modify Dam	Any work that facilitates fish passage over a natural (e.g., beaver) or human-made dam by breaching or removal.	Ü	Ü	Ü	Ü
184	Install Fish Passage Structure	Install, replace or modify structures when the intent is to improve fish passage and/or flow, typically by removing or modifying a full or partial instream barrier. Includes the following types of structures: fish ladders, bridges, culverts, jump pools, and weirs. Use WE# 70: Install Fish Monitoring Equipment, for weirs installed primarily to restrict fish passage for the purpose of monitoring or collecting fish (e.g., picket weirs). Design of complex or large-scale fish passage structures is often a separate work element (see WE# 175: Produce Design and/or Specifications).	Ü	Ü	Ü	Ü



Land Acquisition / Conservation Easement Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
87	Prepare HEP Report	Report to present the findings of the Habitat Evaluation Procedure (HEP) survey conducted by the Regional HEP team.				ü
92	Lease Land	Includes riparian, grazing, and multiple-use leases, typically for multiple years.	ü	ü	ü	ü
172	Conduct Pre-Acquisition Activities	This work element includes the majority of the steps that are required before fee title or a conservation easement can be acquired for a tract of land. The steps are: perform appraisal, perform title searches, perform land boundary surveys, provide legal descriptions, perform hazardous waste assessment, and identify minimum habitat units. For easements, this work element would also include the definition of the easement terms and conditions.				ü

Hatchery / Major Construction Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
168	Council 3-step Process: Step 1	<p>Activities necessary to coordinate Step 1 of the NPCC's 3-step process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. Step 1 is the conceptual/preliminary phase of the process. The key products needed for a Council decision are: 1) a program master plan and 2) an initial facility layout and cost estimate. Some level of feasibility/concept design is normally needed to develop a layout and cost estimate.</p> <p>Projects that fall under the Council's 3-Step Review Process include artificial production programs/facilities, other major or complex construction programs, programs that address an entire watershed, or actions that substantially deviate from a subbasin plan.</p> <p>This work element is a planning/coordination function broken out under a discrete work category because it is a unique feature of the F&W Program.</p>			ü	ü



Hatchery / Major Construction Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
169	Council 3-step Process: Step 2	<p>Activities necessary to coordinate Step 2 of the NPCC's 3-step process, the 'progress review' phase of the process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. For step 2, the key documents needed for a Council decision are: 1) NEPA and ESA review and 2) preliminary design leading to a more refined facility plan and cost estimate.</p> <p>This work element is a planning/coordination function that is broken out under a discrete work category because it is a unique feature of the F&W Program and needs to be tracked separately. This work element captures the labor and materials associated with coordinating the Step 2 process. It does not include any work associated with creating or revising any of the required documents. See Related Work Elements, below.</p>			ü	ü
170	Council 3-step Process: Step 3	<p>Activities necessary to coordinate Step 3 of the NPCC's 3-step process, the 'final design' phase of the process. These activities include submitting required documents, responding to Council/ISRP questions, developing and providing additional materials, attending meetings with Council/ISRP, and making appropriate revisions, etc. For step 3, the key documents needed for a Council decision are: 1) 100% design plans and specifications and 2) a 100% cost estimate, with a 10-15% contingency.</p> <p>This work element is a planning/coordination function that is broken out under a discrete work category because it is a unique feature of the F&W Program and needs to be tracked separately. This work element captures the labor and materials associated with coordinating the Step 3 process. It does not include any work associated with creating or revising any of the required documents. See Related Work Elements, below.</p>			ü	ü
171	Build Artificial Production Facility	Covers all work associated with the construction of a hatchery complex or any structural component of an artificial production facility or satellite facility (e.g., incubation rooms, rearing tanks/ponds, raceways, acclimation ponds, holding ponds, pumps, wells or other water supply, hatchery offices, staff housing, etc.). Also covers the expansion or replacement of any major component.	ü		ü	ü



Hatchery O&M Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
56	Acclimate Juvenile Fish	Includes work performed under contracts solely for acclimation of juvenile fish. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	ü	ü	ü	ü
59	Incubate Eggs	Includes work performed under contracts solely for incubation of fish eggs. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	ü	ü	ü	ü
60	Maintain Fish Health	Includes the work performed under contracts solely for fish health maintenance, such as fish health monitoring, pathology sampling, laboratory processing of samples, and consultation with fish health professionals.	ü		ü	ü
61	Maintain Hatchery	Includes all maintenance and repair activities associated with fish production facilities, including maintenance of buildings, grounds, raceways, acclimation ponds, net pens, water treatment facilities, equipment, vehicles, etc. This work element is intended to include activities related to care of physical structures and grounds and not the care of fish. For example, work to produce fish would be under WE# 176: Produce Hatchery Fish, or WE# 59: Incubate Eggs.	ü		ü	ü
63	Rear Fish	Includes work performed under contracts solely for rearing of fish, e.g., contracts for net pen rearing of Kokanee. Also describes captive rearing work. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	ü	ü	ü	ü
64	Spawn Fish	Includes work performed under contracts solely for spawning of adult fish. If the full range of hatchery fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish.	ü	ü	ü	ü
66	Trap/Collect/Hold/Transport Fish - Hatchery	Includes work performed under contracts solely for trapping, collecting, transporting, and/or holding fish (all life history stages) for inclusion in a fish culture program. If the full range of fish culture activities is performed under a contract, use WE# 176: Produce Hatchery Fish, with Milestones for trapping, collecting, transporting, and/or holding fish, as appropriate.	ü	ü	ü	ü



Hatchery O&M Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
176	Produce Hatchery Fish	This work element includes the fish culture activities associated with a "typical" hatchery O&M contract: obtaining broodstock, spawning broodstock, incubating fertilized eggs, rearing juveniles, acclimating the juveniles offsite prior to release, and releasing the juveniles into a stream or lake, either onsite or from a separate acclimation facility. Includes transportation of fish or eggs between various locations. Most hatchery O&M contractors can use this work element, "Produce Hatchery Fish," along with WE# 61: Maintain Hatchery, in their SOWs. However, there are hatchery contracts that involve only one or two of these fish culture activities, e.g., acclimation facility O&M contracts. In this case, select the work element (or possibly several) from the following list that best describes the fish culture work associated with the contract.	ü	ü	ü	ü
187	Put and Take Fisheries	The stocking of a pond, lake or reservoir with hatchery reared fish for recreational fishing purposes. This includes the transport and stocking of the fish, and the operation and maintenance of the recreational facilities – bathrooms and access roads.	ü		ü	ü

RM & E and Data Management Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
70	Install Fish Monitoring Equipment	Installation of a weir, trap, electronic portal, or other equipment or facility used to monitor fish passage or to collect juvenile or adult fish. This describes the installation of relatively permanent fixed facilities as well as more mobile equipment, like rotary screw traps for smolts.	ü		ü	ü



RM & E and Data Management Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
156	Develop RM&E Methods and Designs	Work that develops and tests conceptual, quantitative, and technological tools for application in research, monitoring, and/or evaluation projects. Includes statistical and sampling designs, data definitions, conceptual models, tagging and other equipment, software development, and generally any other work that prepares for the implementation of actual data collection/generation. Does not apply to producing an RM&E plan itself (see WE# 174: Produce Plan), although it does include the analyses required to write the plan. Also does not apply to models that are developed primarily to analyze and interpret existing data.				
157	Collect/Generate/Validate Field and Lab Data	Work to collect, create, generate, our capture source data. Includes initial entering of data into a computer spreadsheet/database, developing automated data capture programs/routines and related hardware/software (e.g., PDAs, data loggers, thermographs), preparing metadata, and quality assurance/quality control processes. Also includes taking samples for later analysis (e.g., fish tissues for DNA analysis, macroinvertebrate samples, etc.), and any preparations for collecting data if not covered by another work element. Also includes generating secondary/derived data when those data are stored in a database for access and use by other parties for analysis like primary data. Capturing data includes entering data into a computer from historical records, digitizing images, and other methods for converting information to digital format.	ü	ü	ü	ü
158	Mark/Tag Animals	These are activities integral to placing marks/tags on animals. Recognizing that this is a subset of data collection/generation, it has been separated to facilitate tracking the sometimes-significant costs associated with fish marking/tagging. This work element includes capture and bio-sampling activities when they support a primary purpose of placing the mark/tag. It also includes monitoring the effects of the mark/tag on the animals (e.g., tagging mortality), the mark/tag retention/detectability, other QA/QC for the mark/tag data, and creation of associated metadata. It does not include capture activities when the primary purpose is to collect biological data and does not include subsequent mark/tag observations and analysis.	ü	ü	ü	ü



RM & E and Data Management Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
159	Submit/Acquire Data	This work is for transferring data from one spreadsheet/database to another, typically primary data from a field or lab site to a higher-level, secondary regional or national database. It includes both the act of sending and receiving, hardware/software needs for automated uploads/downloads (e.g., transmission and relay links for regular nightly uploads from remote telemonitoring sites), the development and application of data exchange protocols (including QA/QC), and any formatting and documentation required on the sending end to make the transfer. It does not include initial data entry or manipulating (e.g., reformatting) data at the receiving end. This work element explicitly reinforces the importance of transferring data to databases where they will be maintained and accessible, but does not anticipate that this activity will usually require significant effort or costs.			Ü	
160	Create/Manage/Maintain Database	Any work that maintains or improves the security, quality, accessibility, or utility of data in a structured database. Includes creation of relational databases; creation of computer applications to manage data, creation of standardized data formats, management of the data within the database, database hardware/software maintenance and improvement, QA/QC, building and maintaining connectivity with interrelated applications (e.g., GIS, web portals), and creation of metadata/documentation and user-support materials, etc. This applies both to larger regional, secondary databases and to local primary databases (can include spreadsheets) maintained on desktops for individual projects. Does not include generation of data queries or reports, except for internal data management.				
161	Disseminate Raw/Summary Data and Results	All work that makes data and information available to professional users, except for written products covered specifically by other work elements. Includes maps, data query systems, internet data distribution, development of online data display tools, library and archival services, and oral and abstract presentations of results to professional audiences. For outreach and education to students, the general public, and other non-professional audiences, see WE# 99: Outreach and Education.			Ü	



RM & E and Data Management Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
162	Analyze/Interpret Data	These activities apply analytical tools to render meaning from data for making better management decisions. They go beyond data summaries. Often involves tests of statistical significance and may include modeling, indices, and synthesis. Typically culminates in resource management recommendations presented in a report of research/evaluation findings or analyses presented as formal publications.		ü	ü	

Water Conservation Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
82	Install Well	Install well to enable groundwater to be used as an alternative to instream flow. Wells installed to provide hatchery or acclimation water supplies should be covered under WE# 171: Build Artificial Production Facility.	ü	ü	ü	ü
148	Install Flow Measuring Device	Includes activities for installing and/or moving electrical flow gauges or other complex flow measuring devices, such as flow gauges using telemetry to transmit data. Devices may be fixed or portable. Actual measurement would occur under WE# 157: Collect/Generate/Validate Field and Lab Data.	ü	ü	ü	ü
149	Install Pipeline	Includes activities related to installing a pipeline as part of a fish and wildlife project. If pipeline is installed for purposes of increasing flow, other options should first be considered to accomplish purpose, such as water transactions or obtaining cost-share for this work element and subsequently transferring conserved water instream.	ü	ü	ü	ü
150	Install Sprinkler	Includes activities related to installing a sprinkler system as part of a fish and wildlife project. If sprinkler is installed for purposes of increasing flow, other options should first be considered to accomplish purpose, such as water transactions or obtaining cost-share for this work element and subsequently transferring conserved water instream.	ü	ü	ü	ü



Water Conservation Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
151	Line Diversion Ditch	Includes activities related to lining a ditch as part of a fish and wildlife project. If lining of diversion ditch is considered for purposes of increasing flow, other options should first be considered to accomplish purpose, such as ditch consolidation, water transactions or obtaining cost-share and transferring conserved water instream.	ü	ü	ü	ü

Water Transactions Work Elements

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
154	Develop and Negotiate Water Right Transaction	Covers initial aspects of completing water right transactions from preliminary evaluation of the viability of a specific transaction opportunity to preparing water transaction. May include: negotiating, proposing, and review of water deals through the Columbia Basin Water Transactions Program process. Does not include general landowner coordination before any transaction opportunity is identified and completion of the NEPA checklists: these are separate work elements. Work element includes development of transactions to put more water instream such as split season leases, long-term leases, diversion reduction agreements, permanent water transfers, stored water agreements to increase stream flows, and water exchanges.				ü
164	Acquire Water Instream	Covers final aspects to complete implementation of water transactions through the Columbia Basin Water Transactions Program process. Work includes steps for payment of funds to water right holder and/or completion of agreement for securing protected water instream. This work element is generally linked with WE# 154: Develop and Negotiate Water Right Transaction.	ü	ü	ü	ü

**Other Work Elements**

ID	Work Element Name	Definition	EC Needed	Metrics Needed	Focal Species Needed	Location Needed
98	Other	<No Definition>	ü		ü	ü

Click [Here](#) for a worksheet-compatible (csv) formatted report.

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